

CLAIMS

What is claimed is:

1. An adapter unit for communicating with a personal digital assistant and reading a product identification code, the personal digital assistant having a back surface, two side surfaces defining a width of the personal digital assistant, a top surface and a bottom surface defining a length of the personal digital assistant and an expansion connector, said adapter unit comprising:
 - a carrier portion having a bottom wall and two sidewalls, said bottom wall having a top section and a bottom section, said top section of said bottom wall being configured to conform to the back surface of the personal digital assistant;
 - a cover secured to the bottom section of the bottom wall of said carrier portion;
 - an adapter connector for creating a communications link with said expansion connector of the personal digital assistant; and
 - a product identification reader for reading the product identification code, said product identification reader being coupled to the personal digital assistant through said communications link.
2. The adapter of claim 1 wherein said two sidewalls are configured to prevent side-to-side movement of the personal digital assistant relative to the adapter unit.
3. The adapter unit of claim 1 wherein said two sidewalls are configured to prevent vertical movement of the personal digital assistant relative to the adapter unit.

4. The adapter unit of claim 1 wherein said product identification reader is a CCD imager.
5. The adapter unit of claim 1 wherein said adapter unit includes circuitry for a wireless wide area network.
6. The adapter unit of claim 1 wherein said adapter unit includes circuitry for a wireless local area network.
7. An adapter unit for communicating with a personal digital assistant, the personal digital assistant having a back surface, two side surfaces defining a width of the personal digital assistant, a top surface and a bottom surface defining a length of the personal digital assistant and an expansion connector, said adapter unit comprising:

a carrier portion having a bottom wall and two sidewalls, said bottom wall having a top section and a bottom section, said top section of said bottom wall being configured to conform to the back surface of the personal digital assistant;

a cover secured to the bottom section of the bottom wall of said carrier portion;

an adapter connector for engaging with said expansion connector of the personal digital assistant; and

wherein said two sidewalls are configured to prevent side-to-side movement of the personal digital assistant relative to the adapter unit and wherein at least one of the sidewalls is configured to provide a gripping

surface, said gripping surface radiates in an outward direction relative to a vertical axis.

8. The adapter unit of claim 7 wherein a portion of said gripping surface extends above the top section of said bottom wall.
9. The adapter unit of claim 7 wherein said gripping surface comprises more than 20% of the length of the personal digital assistant.
10. The adapter unit of claim 7 wherein said two sidewalls are configured to prevent vertical movement of the personal digital assistant.
11. The adapter unit of claim 7 wherein the distance between the two sidewalls changes along the length of the sidewalls.
12. The adapter unit of claim 7 wherein said adapter unit includes a product identification reader.
13. The adapter unit of claim 7 wherein said adapter unit includes circuitry for a wireless wide area network.
14. The adapter unit of claim 7 wherein said adapter unit includes circuitry for a wireless local area network.
15. An adapter unit for communicating with a personal digital assistant, the personal digital assistant having a back surface, two side surfaces defining a width of the personal digital assistant, a top surface and a bottom surface defining a length of the personal digital assistant and an expansion connector, said adapter unit comprising:

a carrier portion having a bottom wall and two sidewalls, said bottom wall having a top section and a bottom section, said top section of

said bottom wall being configured to conform to the back surface of the personal digital assistant;

a cover secured to the bottom section of the bottom wall of said carrier portion;

an adapter connector for engaging with said expansion connector of the personal digital assistant; and

wherein said two sidewalls are configured to prevent side-to-side movement of the personal digital assistant relative to the adapter unit and wherein at least one of the sidewalls is configured to provide a gripping surface, and wherein a portion of said gripping surface extends above the top section of said bottom wall.

16. The adapter unit of claim 15 wherein said gripping surface radiates in an outward direction relative to a vertical axis.
17. The adapter unit of claim 15 wherein said gripping surface comprises more than 20% of the length of the personal digital assistant.
18. The adapter unit of claim 15 wherein said two sidewalls are configured to prevent vertical movement of the personal digital assistant.
19. The adapter unit of claim 15 wherein the distance between the two sidewalls changes along the length of the sidewalls.
20. An adapter unit that is grasped by a user of a personal digital assistant, the personal digital assistant having a back surface, two side surfaces defining a width of the personal digital assistant, a top surface and a bottom surface defining a length of

the personal digital assistant and an expansion connector, said adapter unit comprising:

a carrier portion having a bottom wall and two sidewalls, said bottom wall having a top section and a bottom section, said top section of said bottom wall being configured to conform to the back surface of the personal digital assistant;

a cover secured to the bottom section of the bottom wall of said carrier portion;

an adapter connector for engaging with said expansion connector of the personal digital assistant; and

wherein said two sidewalls are configured to prevent side-to-side movement of the personal digital assistant relative to the adapter unit and wherein at least one of the sidewalls is configured to provide a gripping surface and a side section, and wherein said gripping surface and said side section meet to form a ridge to improve the user's grasp of the adapter unit.

21. The adapter unit of claim 20 wherein said gripping surface radiates in an outward direction relative to a vertical axis.
22. The adapter unit of claim 20 wherein said gripping surface comprises more than 20% of the length of the personal digital assistant.
23. The adapter unit of claim 20 wherein said two sidewalls are configured to prevent vertical movement of the personal digital assistant.

24. The adapter unit of claim 20 wherein the distance between the two sidewalls changes along the length of the sidewalls.
25. An adapter unit for communicating with a personal digital assistant, the personal digital assistant having a back surface, two side surfaces defining a width of the personal digital assistant, a top surface and a bottom surface defining a length of the personal digital assistant and an expansion connector, said adapter unit comprising:
- a carrier portion having a bottom wall and two sidewalls, said bottom wall having a top section and a bottom section, said top section of said bottom wall being configured to conform to the back surface of the personal digital assistant and wherein said two sidewalls are configured to prevent side-to-side and vertical movement of the personal digital assistant relative to the adapter unit;
 - a cover secured to the bottom section of the bottom wall of said carrier portion;
 - an adapter connector for engaging with said expansion connector of the personal digital assistant; and
 - a retainer clip for engaging with the top surface of the personal digital assistant and securing the personal digital assistant to the adapter unit.
26. The adapter unit of claim 25 wherein said retainer clip has a rotatable hinge.

27. The adapter unit of claim 25 wherein said adapter unit includes a product identification reader.
28. The adapter unit of claim 25 wherein said adapter unit includes circuitry for a wireless wide area network.
29. The adapter unit of claim 25 wherein said adapter unit includes circuitry for a wireless local area network.